## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of    :    Gupta et al.

Serial No.             :    09/747,645

Filed                  :    December 22, 2000

For                    :    METHOD AND APPARATUS FOR MEASURING PRODUCT SHIPMENT PROCESS CAPABILITY

Group Art No.      :    3623

Examiner           :    Romain Jeanty

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## APPEAL BRIEF PURSUANT TO 37 C.F.R §41.37

Dear Sir:

      This Appeal Brief is being filed in furtherance of the Notice of Appeal filed on January 10, 2008.

1.    **REAL PARTY IN INTEREST**

The real party in interest is General Electric Company by virtue of the Assignment recorded April 20, 2004, at reel 016212, frame 0534.

2.    **RELATED APPEALS AND INTERFERENCES**

Appellant is unaware of any other appeals or interferences related to this Appeal. The undersigned is Appellant's legal representative in this Appeal. General Electric Company, the Assignee of the above-referenced application, as evidenced by the documents mentioned above, will be directly affected by the Board's decision in the pending appeal.

3.    **STATUS OF CLAIMS**

Claims 1-27 are currently pending and are currently under final rejection. Claims 1-27 are the subject of this appeal.

4.    **STATUS OF AMENDMENTS**

All previous amendments have been entered. Appellant has submitted no additional amendments subsequent to the Final Office Action of October 10, 2007.

5.    **SUMMARY OF CLAIMED SUBJECT MATTER**

The invention relates to a method and apparatus for measuring product shipment process capability. *Application,* Title. More particularly, the invention is directed to providing real-time, or in a time that for all practical purposes is real-time to the user, information about product shipment process capability. *Id* at ¶ [0007]. The information is to be available continuously and automatically updated at a frequency to maintain the real-time effectiveness of the information. *Id.*

Claim 1 calls for a method for measuring product shipment process capability. The method comprises maintaining (36) a database that contains fields indicating at least an order, a max ship date, a customer requested date, and a product category for each order. *Id* at ¶¶ [0022], [0037]; Fig. 2. The step of fetching (38) order information for all orders that have a valid max ship date is then claimed. *Id* at ¶¶ [0027], [0032]; Fig. 2. Next, the step of subtracting (48) the customer requested date from the max ship date producing a difference value is claimed. *Id.* Following the subtracting step, the step of adding (52) a predetermined number of days to the difference value providing a shipment

quality metric for each order, and determining (58-68) a statistical calculation to indicate process quality using the shipment quality metric is set forth. *Id.*

Claim 11 call for a computer-readable medium having stored thereon one or more computer programs having a set of instructions that, when executed by one or more computers (10), causes the one or more computers to query, ignore, subtract, repeat, and process a variety of elements of the claim. That is, the one or more computers (10) are caused to query (38, 98, 102) a database (36) that contains information detailing orders, a requested delivery date, a max ship date, and a product category for a plurality of products. *Id* at ¶ [0027]; Figs. 1-2, 4. Orders with no max ship date are ignored (40). *Id* at ¶ [0034]; Fig. 2. The requested delivery date is subtracted (48) from the max ship date and an adjustment value is added (52) to obtain a shipment quality metric. *Id* at ¶¶ [0027], [0032]; Fig. 2. The query, subtraction, addition acts are repeated (56a) for a plurality of shipped products. *Id* at ¶¶ [0035], [0037]; Fig. 2. The one or more computers (10) are also caused to process (58-66) the shipment quality metrics to determine overall shipment quality. *Id* at ¶¶ [0025], [0032]; Figs. 1-2.

Claim 17 calls for a computer data signal representing a sequence of instructions that, when executed by one of more processors (10), cause the one or more processors (10) to maintain, obtain, create, and compute a variety of elements as set forth in such claim. *Id* at ¶ [0037], Fig. 1. That is, the one or more processors (10) are caused to maintain a database of data (30) indicating an order number, a promise date, a request date, a max ship date, and a product category for each product. *Id.* The data from each order that has a valid max ship date is obtained (38). *Id*; Fig. 2. An upper specification limit is created (64) by adding a predetermined number of days just prior to a customer's requested delivery date. *Id.* A lower specification limit is created (64) by adding a predetermined number of days after a customer's requested delivery date. *Id.* Further, the one or more processors (10) compute (58-68) and display (82, 86, 90) a statistical value providing an indication of process capability. *Id* at ¶ [0038]-[0039]; Figs. 1-3.

6.     **GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

Whether claims 1-2, 4-6, 11-15, and 17-19 are patentable under 35 U.S.C. §103(a) over Deleryd, Mats; "On the Gap between theory and practice of process capability studies", 1998, The International Journal of Quality and Reliability Management,

Bradford, Vol. 15, Iss. 2, pg. 178 (hereinafter Deleryd) in view of "A SAS Institute White Paper: The Quality Data Warehouse – serving the analytical needs of the manufacturing enterprise", © 1999, SAS Institute, pp. 1-11 (hereinafter SAS).

Whether claims 3, 7, 9, 20-22, 24, 25, and 27 are patentable under 35 U.S.C. §103(a) over Deleryd in view of SAS and further in view of Davis, Robert D; et al.; "Detecting Process Shifts with X-bar charts", First Quarter 1993, Production and Inventory Management Journal, 34, 1, ABI/INFORM Global, p. 25 (hereinafter Davis).

Whether claims 8, 10, 16, 23, and 26 are patentable under 35 U.S.C. §103(a) over Deleryd in view of SAS, in view of Davis, and further in view of Harry, Mikel J; "Six Sigma: A breakthrough strategy for profitability", May 1998, Quality Progress, 31, 5, ABI/INFORM Global, p. 60 (hereinafter Harry).

## 7.      **ARGUMENTS**

The Examiner rejected claims 1-2, 4-6, 11-15, and 17-19 under 35 U.S.C. §103(a) over Deleryd in view of SAS. *Office Action*, 10/10/2007, pg. 2. The Examiner rejected claims 3, 7, 9, 20-22, 24, 25, and 27 under 35 U.S.C. §103(a) over Deleryd in view of SAS and further in view of Davis. *Id* at pg. 7. The Examiner rejected claims 8, 10, 16, 23, and 26 under 35 U.S.C. §103(a) over Deleryd in view of SAS, in view of Davis, and further in view of Harry. *Id* at pg. 11.

**Rejection of claims 1-27 under 35 U.S.C. §103(a) over Deleryd in view of SAS**

Claim 1:

The Examiner rejected claim 1 under 35 U.S.C. §103(a) as being unpatentable over Deleryd in view of SAS. Claim 1 calls for, in part, maintaining a database that contains fields indicating at least an order, a max ship date, a customer requested date, and a product category for each order; fetching order information for all orders that have a valid max ship date; and subtracting the customer requested date from the max ship date producing a difference value.

In rejecting claim 1, the Examiner stated that the "fields" set forth in claim 1, and in those claims depending therefrom, were nonfunctional data. *Office Action*, 10/10/2007, pg. 4-5; *See Office Action,* 10/10/2007, pg. 11. In an attempt to support such a conclusion, the Examiner cited *In re Gulack, In re Lowry, In re Ngai* and MPEP §2106.

*Id* (citing 703 F.2d 1381, 1385 217 USPQ 401 (Fed. Cir. 1983); 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994); and 367 F.3d 1336, 1336, 70 USPQ2d 1862, 1863-1864 (Fed Cir. 2004), respectively). Appellant respectfully disagrees with the Examiner's assertion that the fields called for in claim 1 comprise "nonfunctional data." Functional elements of the claims have been completely ignored and Appellant therefore believes that the Examiner has improperly rejected claims 1- 27 under §103(a).

First, Appellant believes that, even upon a cursory review of the cited cases, the Examiner's position with respect to the reliance on *In re Gulack*, *In re Lowry*, and *In re Ngai* is neither supported by the citations nor can it be sustained. It appears that the Examiner has attempted to apply the "printed matter rejection" under §103 articulated with skepticism in *In re Gulack*, 703 F.2d at 1385 n.8. However, *In re Gulack* and *In re Lowry* are both explicit that such rejections should not be used liberally. *Id*. and 32 F.3d at 1584. The *In re Lowry* Court <u>chastised</u> the PTO for erroneously applying a "printed matter rejection" because "printed matter cases have **no** factual relevance where 'the invention as defined by the claims requires that the information be processed not by the mind but by a machine, computer.'" 32 F.3d at 1582 citing *In re Bernhart*, 417 F.2d 1395, 1399, 163 USPQ 611, 615 (CCPA 1969) (emphasis added). Claim 1 of the present application calls for maintaining of a database having the above field information therein. Therefore, under both *In re Gulack* and *In re Lowry*, since the current claims require maintaining of a database and not processing by the human mind, the Examiner is "not at liberty to ignore such limitations." 32 F.3d at 1584.

Even assuming *arguendo* that the elements (i.e., fields) called for in claim 1 fell within the category of printed matter as discussed in *Gulack, Ngai,* and *Lowry*, the elements cannot be ignored. *In re Gulack* at 1385. As the *Gulack* court sates:

> Differences between an invention and the prior art cited against it cannot be ignored merely because those differences reside in the content of the printed matter.[8] Under section 103, the board cannot dissect a claim, excise the printed matter from it, and declare the remaining portion of the mutilated claim to be unpatentable. The claim must be read as a whole.[9] If the board meant to disregard that basic principle of claim interpretation, we must reverse the rejection as a matter of law.

*Id* at 1385. Thus, even were the max ship date, customer requested date, and product category called for in claim 1 "printed matter", these elements still cannot be merely ignored by the Examiner.

In a similar manner, the elements called for in claim 1 are not nonfunctional data. Unlike the set of instructions at issue in *In re Ngai*, the fields set forth in claim 1 are not printed matter. In addition and more broadly, the fields are not nonfunctional data as defined by the MPEP §2106.01. Although the Examiner cited MPEP §2106 in support of the conclusion that the elements were nonfunctional data, Appellant assumes the Examiner intended to cite §2106.01. Section 2106 does not address nonfunctional data, but rather, is directed to §101 rejections. As examples of nonfunctional descriptive material, MPEP §2106.01 lists "music, literary works, and a compilation or mere arrangement of data." *MPEP §2106.01*. The set of instructions, at issue in *In re Ngai*, which were added to a known kit for normalizing and amplifying RNA populations, clearly falls within the examples of nonfunctional descriptive material listed in §2106.01. *See In re Ngai*. However, the fields cited in claim 1 of the present application, are nothing like the examples listed in §2106.01 of the MPEP. Method claim 1 calls for a method for measuring product shipment process capability comprising maintaining a database that contains fields indicating at least an "order," a "max ship date," a "customer requested date," and a "product category" for each order. These fields have defined meaning. As always, one must ascertain that meaning from the Specification. That basic step must not be ignored, as was done in this case.

Contrary to the assertions set forth by the Examiner, claim 1 does not contain elements that can be viewed as non-functional data. It is clear that the elements set forth in claim 1, such as the "valid max ship date," "customer requested date," and "max ship date", are not nonfunctional descriptive material that would fall under the "music, literary works, and a compilation or mere arrangement of data" set forth in MPEP §2106.01. Rather, the fields set forth in the claim 1 limitations are used to achieve, as claimed, the step of determining a statistical calculation to indicate process quality using the shipment quality metric. The elements are functionally involved and interrelated to the steps recited, and an order must possess these elements to be employed within the method recited in claim 1.

In order to reject claim 1, the examiner has excised functional elements from the claims, leaving only a mutilated shell. Following is claim 1 with the excised functional elements underlined:

> A method for measuring product shipment process capability, comprising: maintaining a database that contains fields indicating at least <u>an order</u>, <u>a max ship date</u>, <u>a customer requested date</u>, and <u>a product category for each order</u>; fetching order information for all orders that have a <u>valid max ship date</u>; subtracting <u>the customer requested date</u> from <u>the max ship date</u> producing a difference value; adding a predetermined number of days to the difference value providing a shipment quality metric for each order; and determining a statistical calculation to indicate process quality using the shipment quality metric.

*Application,* claim 1. Only by ignoring the functional elements of the claim 1 was the Examiner able to make a comparison of the claims to the disparate references, Deleryd and SAS. The subject matter of both Deleryd and SAS is theoretical and conceptual, and each can only be compared to the claims at a high level. *See Deleryd and SAS.* That is, claim 1 calls for maintaining a database that contains fields indicating at least an order, a max ship date, a customer requested date, and a product category for each order; fetching order information for all orders that have a valid max ship date; and subtracting the customer requested date from the max ship date producing a difference value. Both Deleryd and SAS discuss theory and broad general concepts, without any teaching or suggestion of these specifically recited elements. That is, Deleryd discloses general process capability studies, theoretical aspects for users of general process capability studies to consider, and information on process capability studies in practice. *Deleryd*, p. 2, par. 4-6 ("First, this paper describes some **theoretical** aspects of process capability studies . . . [t]hen the adherence to these theoretical aspects is described.")(emphasis added). However, claim 1 calls for, "subtracting the **customer requested date** from the **max ship date** producing a difference value" and "determining a statistical calculation to indicate process quality using the **shipment quality metric**." The general studies and theoretical aspects of Deleryd are not disclosed as, and cannot be considered, a "customer requested date," a "max ship date" or a "shipment quality metric." Furthermore, even assuming arguendo, that Deleryd teaches that "the process metric is subtracted from the

target value T to produce a difference value," this teaching is not equivalent, nor does it suggest, "subtracting the customer requested date from the max ship date producing a difference value," as called for in claim 1.

Due to the Examiner's improper characterization of certain elements in claim 1 as comprising non-functional material, the Examiner has failed to properly consider all claim limitations while determining patentability under § 103(a). "Each functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used. A functional limitation is often used in association with an element, ingredient, or step of a process to define a particular capability or purpose that is served by the recited element, ingredient or step." *MPEP §2173.05(g)*. As a result of ignoring claim limitations, the Examiner has not considered the invention as a whole as required by MPEP §2141.02. Rather, the Examiner has distilled the invention down to the "gist" or "thrust" of the invention; therefore the Examiner has disregarded the "as a whole" requirement. *Id.* Accordingly, because the Examiner did not consider all expressly recited elements of claim 1, the rejection is deficient on its face. Therefore, Appellant respectfully requests withdrawal of the §103(a) rejections of claim 1 and all claims depending therefrom.

Claims 11 and 17:

The Examiner also rejected claims 11 and 17 under 35 U.S.C. §103(a) as being unpatentable over Deleryd in view of SAS. For each of these claims, the Examiner failed to evaluate the limitations called for therein, and therefore, the Examiner's §103(a) rejection of such claims cannot stand. "The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious." *MPEP §§ 2142, 2143*. As such, noted in the MPEP and by the United States Supreme Court, "the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit." *MPEP §2143*(emphasis added)("The Supreme Court in KSR noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit."). Accordingly, "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *Id.* In order to adequately

present such an articulated reasoning with some logical underpinning, "[e]ach functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used." *MPEP §2173.05(g)*.

With respect to claims 11 and 17, however, the Examiner has neither evaluated each functional limitation nor presented an articulated reasoning with a rational underpinning to support a §103(a) rejection. In contrast, the Examiner merely stated that that such claims "recite similar limitations as those … [previously addressed], and are therefore rejected under the same rationale." *Office Action*, 10/10/2007, pg. 7. In other words, the Examiner rejected independent claims 11 and 17 because they were "similar" to claims previously rejected. Whether or not the claims are similar has no relevance to a §103(a) rejection. It is the claim limitations that are relevant – not similar claim limitations.

Each of claims 11 and 17 call for limitations not addressed by the Examiner. Limitations set forth in claim 11, but not in claims addressed by the Examiner at least include the following: query a database that contains information detailing orders, a requested delivery date, a max ship date, and a product category for a plurality of products; ignore orders with no max ship date; and repeat the query, subtraction, addition acts for a plurality of shipped products. With regard to claim 17, the Examiner failed to address at least these following limitations: maintain a database of data indicating an order number, a promise date, a request date, a max ship date, and a product category for each product; create an upper specification limit by adding a predetermined number of days just prior to a customer's requested delivery date; and create a lower specification limit by adding a predetermined number of days after a customer's requested delivery date.

In addition to the failure by the Examiner to specifically address claims 11 and 17, it appears that the Examiner also applied the "nonfunctional language" argument to these claims. That is, the Examiner has not specifically stated that elements called for in claims 11 and 17 do not carry patentable weight; however, Appellant must make such an assumption since the Examiner did not specifically address the elements of independent claims 11 and 17, but only referred to arguments previously presented. *See Office Action*,

10/10/2007, pg. 7, 11. Further, based on the case law cited by the Examiner, Appellant assumes the Examiner is again applying a printed matter rejection. That is, the examiner relies on a printed matter rejection to ignore elements such as a requested delivery date, a max ship date, a product category, order number, a promise date, and a number of customer orders.

As set forth in detail above, the Examiner's disregard of such elements, however, is improper because claims 11 and 17 call for such elements to be processed by a machine: a computer(s) or processor(s). That is, the *Lowry* court has explicitly stated that "[t]he printed matter cases have no factual relevance where the invention as defined by the claims *requires* that the information be processed not by the mind but by a machine, the computer." *In re Lowry*, at 1583 (emphasis in original) (internal quotation omitted). Claims 11 and 17 of the present application each call for at least a computer or processor to execute or process that which is called for in the claims. Therefore, since the current claims require processing by a computer or processor - not the human mind - the Examiner is "not at liberty to ignore such limitations." *Id* at 1584.

Similar to that set forth above with respect to claim 1, only by ignoring the functional elements of claims 11 and 17, such as the requested delivery date, max ship date, and product category, was the Examiner able to make a comparison of the claims to the disparate references, Deleryd and SAS. Neither Deleryd nor SAS teach or suggest any of these distinctly claimed elements, but rather only discuss theory and broad general concepts, without any teaching or suggestion of these specifically recited elements.

Due to the Examiner's improper characterization of certain elements in claims 11 and 17 as comprising non-functional material, the Examiner has failed to properly consider all claim limitations while determining patentability under §103(a). Accordingly, because the Examiner did not consider all expressly recited elements of claims 11 and 17, and because the Examiner has improperly ignored specifically recited elements as nonfunctional material, the rejection is deficient on its face.

Therefore, Appellant respectfully requests allowance of claims 11 and 17, and all claims depending therefrom.

Official Notice

In making the 103(a) rejection of claims 1, 11, and 17 over Deleryd in view of SAS, the Examiner relies upon Official Notice. The Examiner acknowledged that "Deleryd does not teach: maintaining a database that contains fields indicating at least an order, a max ship date, a customer requested date, and a product category for each order; fetching order information for all orders that have a valid max ship date; and adding a predetermined number of days to the difference value providing a shipment quality metric for each order." *Office Action,* 10/10/2007, pg. 3. To overcome the deficiencies of the cited reference, the Examiner merely asserted that Official Notice could be taken in regards to teaching that "it is old and well known in the art to add a numerical offset to a process metric to handle skewness." *Id.* The Examiner then concluded, that it would have been obvious to "modify the teachings of Deleryd, regarding providing process control measurement to data that is normally distributed, to add an offset to the data...." *Id.* at 4. The Examiner made this conclusion without any support or evidence in accord with the statement.

Simply, "any facts so noticed should be of notorious character and serve only to 'fill in the gaps' in an insubstantial manner which might exist in the evidentiary showing made by the Examiner to support a particular ground for rejection." *MPEP § 2144.03.* Appellant does not believe that the Examiner's use of Official Notice is merely to "fill in the gaps." That is, the quality shipment metric recited in claim 1 is a substantial element of the claimed invention in that such a metric is determined by maintaining a database that contains fields indicating at least an order, a max ship date, a customer requested date, and a product category for each order, along with the fetching of order information for all orders that have a valid max ship date and the adding of a predetermined number of days to the difference value. It is apparent that the determination of a "quality shipment metric" via the method called for in claim 1, identified as common knowledge by the Examiner, is far from an ancillary "gap" that the Examiner is attempting to "fill." Rather, the Examiner is reaching far beyond the scope of appropriate use of Official Notice and is attempting to take Official Notice of entire elements of the claim.

The Examiner's application of Official Notice is inappropriate under the procedures set forth in the MPEP. "The Examiner may take Official Notice of facts

outside of the record which are capable of instant and unquestionable demonstration as being 'well-known' in the art." *MPEP § 2144.03*. However, MPEP § 2144.03 is clear that "such rejections [relying on official notice] should be judiciously applied," be "rare," and be used "[i]n limited circumstances." It is clear that Official Notice has not been "judiciously applied" to merely "fill in the gaps." The Examiner is using Official Notice for rejecting the very essence of the claims. In addition, the Examiner has failed to cite to any reference that actually supports the imposition of Official Notice. The Examiner must "cite a reference in support of his or her position" should the Appellant traverse the assertion, which was done in the response dated July 18, 2007. *MPEP § 2144.03*. Furthermore, "[i]t is never appropriate to rely solely on 'common knowledge' in the art without evidentiary support in the record, as the principal evidence upon which a rejection was based." *MPEP §2144.03 citing In re Zurko, 258 F.3d 1379, 1385, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001)*. In the current rejection, the Examiner has not shown that determining of a "quality shipment metric," via the steps called for in claim 1, was "well known" at the time the invention was made.

Appellant does not believe that the elements identified in claim 1, as well as those corresponding elements in claims 11 and 17, as claimed in the current invention and as in connection with the other elements of the claim, were well known prior to the time of the claimed invention. For all of the above reasons, Appellant believes the Examiner's use of Official Notice is improper and is thereby traversed.

## **Rejection under 35 U.S.C. §103(a) over Deleryd in view of SAS and further in view of Davis**

Claim 27:

The Examiner rejected claim 27 under 35 U.S.C. §103(a) as being unpatentable over Deleryd in view of SAS and further in view of David. Claim 27 calls for, in part, a computer readable storage medium having a processor that is caused to acquire a requested delivery date and a shipped date of a number of customer orders from a database, calculate a shipment metric mean value and standard deviation from the dates, establish an upper specification limit and a lower specification limit, calculate a first Z value by subtracting the mean value from the upper specification limit and dividing by

the standard deviation, calculate a second Z value by subtracting the lower specification limit from the mean value and dividing by the standard deviation, and determine a long term process capability value by selecting a minimum of the first Z value and the second Z value.

Similar to claims 11 and 17, the Examiner failed to specifically address claim 27 and the elements called for therein. Again, the Examiner merely stated that that such claims "recite similar limitations as those … [previously addressed], and are therefore rejected under the same rationale." *Office Action*, 10/10/2007, pg. 11. In other words, the Examiner rejected independent claims 27 because it was "similar" to claims previously rejected. As discussed above, whether or not claims are similar has no relevance to a §103(a) rejection. It is the claim limitations that are relevant – not similar claim limitations.

As a result, the Examiner has given no indication as to where in the cited references these specifically recited elements are taught or suggested; therefore, the rejection is improper on its face. Furthermore, in rejecting claim 27, the Examiner seems to have again ignored specifically recited elements in the claim. That is, the Examiner has ignored the steps of "acquiring a requested delivery date and a shipped date" and "calculating a shipment metric mean value and standard deviation from the dates." The Examiner has treated these elements of claim 27 as nonfunctional descriptive data and has, in effect, ignored these specifically recited elements. *See Office Action*, 10/10/2007, pg. 7-11.

As set forth above, as a result of ignoring claim limitations the Examiner has not considered the invention as a whole as required by MPEP §2141.02. Rather, the Examiner has improperly distilled the invention down to the "gist" or "thrust" of the invention; therefore the Examiner has disregarded the "as a whole" requirement. *Id.* Because the Examiner did not consider all expressly recited elements of claim 27, nor set forth where in the prior art the claimed elements are thought to be recited, the rejection is deficient on its face. Therefore, Appellant respectfully requests withdrawal of the §103(a) rejections of claim 27.

8.     **CONCLUSION**

For at least the reasons set forth above, Appellant requests withdrawal of the rejection of claims 1-27. As a result of ignoring elements of claims 1, 11, 17, 27, the Examiner has ignored limitations of each claim – limitations that are not taught by the art of record. As such, the Examiner has not shown that the art of record teaches each and every limitation of such claims and renders them obvious. Further, since the Examiner has not evaluated the limitations of claims 11, 17, and 27, it cannot be said that the Examiner provided a rational underpinning to support the legal conclusion of obviousness. As such, Appellant believes that claims 1, 11, 17, and 27, and claims which depend therefrom, are patentably distinct over the art of record.

Appellant appreciates the Board's consideration of these Remarks and respectfully requests timely issuance of a Notice of Allowance.


Respectfully submitted,                          Respectfully submitted,

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## CLAIMS APPENDIX

## In the claims

1.      (Original)  A method for measuring product shipment process capability, comprising:

maintaining a database that contains fields indicating at least an order, a max ship date, a customer requested date, and a product category for each order;

fetching order information for all orders that have a valid max ship date;

subtracting the customer requested date from the max ship date producing a difference value;

adding a predetermined number of days to the difference value providing a shipment quality metric for each order; and

determining a statistical calculation to indicate process quality using the shipment quality metric.

2.      (Original)  The method of claim 1 wherein the order information fetched from the database is only for those orders that were placed within a given time period.

3.      (Previously Presented)  The method of claim 1 further comprising:

determining a value for an upper specification limit and a lower specification limit;

displaying a percentage of times the shipment quality metric was greater than the upper specification limit; and

displaying a percentage of times the shipment quality metric was less than the lower specification limit.

4.      (Original)  The method of claim 1 further comprising:

setting a value for at least one specification limit; and

computing and displaying a statistical score based upon the specification limit and the shipment quality metrics, wherein said statistical score is a measure of process capability.

5.      (Original)  The method of claim 1 wherein the steps following maintaining the database are repeated at regular time intervals.

6.      (Original)  The method of claim 1 wherein the statistical calculation is calculated and displayed for each product category.

7.      (Original)  The method of claim 4 wherein the statistical score is calculated by using a formula given by:

$$Z_{LT} = \min[\frac{USL - \mu}{\sigma}, \frac{\mu - LSL}{\sigma}].$$

8.      (Original)  The method of claim 7 wherein the method further comprises determining Z short-term by use of the formula $Z_{ST} = Z_{LT} + 1.5$.

9.      (Original)  The method of claim 7 wherein the method further comprises displaying said $Z_{LT}$ value by displaying a scale representing a range of values for $Z_{LT}$ with an overlapping needle to indicate current performance.

10.     (Original)  The method of claim 8 wherein the method further comprises graphically displaying the $Z_{ST}$ value by displaying a range of values with an overlapping needle to indicate current performance.

11.     (Original)  A computer-readable medium having stored thereon one or more computer programs having a set of instructions that, when executed by one or more computers, causes the one or more computers to:

       query a database that contains information detailing orders, a requested delivery date, a max ship date, and a product category for a plurality of products;

       ignore orders with no max ship date;

       subtract the requested delivery date from the max ship date and add an adjustment value to obtain a shipment quality metric;

       repeat the query, subtraction, addition acts for a plurality of shipped products; and

       process the shipment quality metrics to determine overall shipment quality.

12.     (Original)  The computer-readable medium of claim 11 wherein the shipment quality metrics are processed to provide a statistical measure of process capability.

13.     (Original)   The computer-readable medium of claim 11 wherein the shipment quality metrics are regularly re-processed by repeating the acts of claim 11 at regular time intervals.

14.     (Original)   The computer-readable medium as in claim 13 wherein the regular time interval is substantially real-time as perceived by a user.

15.     (Original)   The computer-readable medium of claim 11 wherein processing the shipment quality metrics is accomplished by a set of instructions that, when executed by one or more computers, causes the one or more computers to further:

        determine a mean of the shipment quality metrics;

        determine a standard deviation of the shipment quality metrics;

        designate an upper specification limit (USL) and a lower specification limit (LSL) for the shipment quality metrics;

        determine a Z long-term value by subtracting the mean from the upper specification limit and dividing the result by the standard deviation; and

        display the value of Z long-term.

16.     (Original)   The computer-readable medium of claim 15 having further instructions to  determine an estimated value for Z Short Term by adding a constant to the Z long-term value.

17.     (Original)   A computer data signal representing a sequence of instructions that, when executed by one of more processors, cause the one or more processors to:

        maintain a database of data indicating an order number, a promise date, a request date, a max ship date, and a product category for each product;

        obtain the data from each order that has a valid max ship date;

        create an upper specification limit by adding a predetermined number of days just prior to a customer's requested delivery date;

        create a lower specification limit by adding a predetermined number of days after a customer's requested delivery date; and

        compute and display a statistical value providing an indication of process capability.

18.     (Original)   The computer data signal of claim 17 wherein the computer data signal contains further instructions to repeat the instructions of claim 17 at regular time intervals.

19.     (Original)   The computer data signal of claim 17 wherein the information is updated and the statistical value is recalculated every time a user requests the information.

20.     (Original)  The computer data signal of claim 17 having instructions to:

determine a mean value and a standard deviation;

subtract the mean value from the upper specification limit and divide a result by the standard deviation to create a first Z-value;

subtract the lower specification limit from the mean value and divide a result by the standard deviation to create a second Z-value; and

choose a value that is a minimum of the first and second Z-values.

21.     (Original)   The computer data signal of claim 17 wherein the statistical value calculated and displayed is a projected defect in parts per million.

22.     (Original)   The computer data signal of claim 17 wherein the statistical value calculated and displayed is a Z long-term value.

23.     (Original)   The computer data signal of claim 17 wherein the statistical value calculated and displayed is a Z short-term value.

24.     (Previously Presented)   The computer data signal of claim 17 having instructions to:

determine a number of times that an actual shipment date was between the upper specification limit and the lower specification limit given a number of opportunities;

project a number of times that a shipment date would not be between the upper specification limit and the lower specification limit given one million opportunities; and

display the projected number as defects per one million opportunities.

25.     (Original)  The computer data signal of claim 20 wherein the instructions cause the one or more processors to further:

decide which of the first and second Z-values are a minimum value; and

display the minimum value first and second Z-values identified as Z long-term.

26.     (Original)  The computer data signal of claim 25 wherein the instructions cause the one or more processors to further:

add 1.5 to the minimum value and display it as Z short-term.

27.     (Previously Presented) A computer readable storage medium having a computer program stored thereon which, when executed by a processor, causes the processor to:

acquire a requested delivery date and a shipped date of a number of customer orders from a database;

calculate a shipment metric mean value and standard deviation from the dates;

establish an upper specification limit and a lower specification limit;

calculate a first Z value by subtracting the mean value from the upper specification limit and dividing by the standard deviation;

calculate a second Z value by subtracting the lower specification limit from the mean value and dividing by the standard deviation; and

determine a long term process capability value by selecting a minimum of the first Z value and the second Z value.

**EVIDENCE APPENDIX:**

-- None --

**RELATED PROCEEDINGS APPENDIX:**

-- None --